

## Claims

What is claimed is:

- [c1] A single stage, swing down tank bracket, comprising:  
a frame immovably mounted onto a vehicle;  
a cradle operatively connected to the frame and arranged to support a fuel tank;  
a hinge that pivotally connects a first end of the cradle to a first end of the frame;  
and  
a latch having a first portion disposed on a second end of the frame and a second portion disposed on a second end of the cradle, wherein the first portion of the latch is releasably engaged with the second portion of the latch, wherein, after the latch is disengaged, the cradle is rotationally maneuverable between a retracted position and an extended position in a single stage, wherein, the cradle may be maneuvered between the retracted position and the extended position by simultaneously rotating outwardly and downwardly in relation to the vehicle.
- [c2] The swing down tank bracket of claim 1, wherein the vehicle is a forklift truck.
- [c3] The swing down tank bracket of claim 2, wherein in the retracted position, the cradle is positioned substantially parallel to the frame.
- [c4] The swing down tank bracket of claim 2, wherein in the retracted position, the cradle is positioned substantially parallel to an upper surface of a counterweight of the forklift truck, and wherein, in an extended position, the cradle is positioned at an angle to a side surface of the counterweight.
- [c5] The swing down tank bracket of claim 1, further comprising:  
a gas spring, wherein a first end of the gas spring is operatively connected to the frame; and

a pivot screw operatively connecting a second end of the gas spring to the first end of the cradle,

wherein, while the cradle is maneuvered from the retracted position to the extended position, the gas spring resists the motion of the cradle.

- [c6] The swing down tank bracket of claim 5, wherein the gas spring provides a near full assist for maneuvering the cradle from the extended position to the retracted position when a full fuel tank is positioned in the cradle, and further comprising a second latch for selectively latching the cradle in the extended position.
- [c7] The swing down tank bracket of claim 1, further comprising a set of straps operatively coupled to the cradle and arranged to be releasably engaged around a circumference of the fuel tank.
- [c8] The swing down tank bracket of claim 1, wherein the cradle comprises an alignment pin arranged to fit into an opening in a rim of the fuel tank.
- [c9] The swing down tank bracket of claim 1, further comprising a dampener operatively connected the frame and the cradle, wherein, after the latch is disengaged, the cradle can be mechanically maneuvered from the retracted position to the extended position without operator assistance.
- [c10] The swing down tank bracket of claim 1, wherein, in an extended position, the cradle is positioned at an angle about 40 degrees outward from a side surface of the vehicle.
- [c11] A swing down tank bracket, comprising:
  - means for immovably mounting the tank bracket onto a forklift truck;
  - means for supporting a fuel tank disposed on the tank bracket;
  - means for rotationally maneuvering the means for supporting with respect to the means for immovably mounting; and

means for releasably engaging the means for supporting and the means for immovably mounting,  
wherein, upon disengagement of the means for releasably engaging, the means for supporting is maneuvered between a retracted position and an extended position using the means for rotationally maneuvering in a single stage, and  
wherein, when the means for supporting is maneuvered from the retracted position to the extended position, the means for supporting moves in a direction that is outward and downward in relation to the forklift truck.

- [c12] The swing down tank bracket of claim 11, further comprising:  
means for balancing a rotation of the means for supporting,  
wherein, upon disengagement of the means for releasably engaging, the means for balancing resists a motion of the means for supporting such that the means for supporting is maneuvered with minimal operator assistance.
- [c13] The swing down tank bracket of claim 12, wherein the means for balancing moves along a trajectory substantially similar to a trajectory traversed by the means for supporting while the means for supporting is maneuvered from a retracted position to an extended position.
- [c14] The swing down tank bracket of claim 12, wherein the means for supporting comprises means for securing the tank bracket to the means for supporting.
- [c15] The swing down tank bracket of claim 12, further comprising:  
means for damping the rotation of the means for supporting,  
wherein, upon disengagement of the means for releasably engaging, the means for damping retards a motion of the means for supporting.
- [c16] A method for maneuvering a cradle of a tank bracket supporting a fuel tank from a retracted position to an extended position in a single stage, comprising:

disengaging a latch; and  
rotating the cradle about a hinge that is attached to a first end of the cradle such that a second end of the cradle moves along a trajectory downward and outward from a frame of the tank bracket to the extended position, wherein, the rotating the cradle laterally extends a gas spring operatively connecting the cradle and the frame, and wherein the gas spring generates a force that at least partially balances a force generated by a combined weight of the fuel tank and the cradle.

- [c17] The method of claim 16, wherein the gas spring operatively connects the cradle to the frame via a pivot screw, and wherein the rotating the cradle causes the pivot screw to be pulled along a trajectory substantially similar to the trajectory traversed by the second end of the cradle. .
- [c18] The method of claim 17, wherein the pivot screw extends the gas spring along the trajectory traversed by the pivot screw.
- [c19] The method of claim 16, a damper operatively connected to the cradle slows a swing motion of the cradle such that the cradle can be maneuvered from the retracted position to the extended position in a controlled manner.
- [c20] The method of claim 16, wherein the fuel tank is secured to the cradle using a set of straps connected to the cradle, wherein the set of straps are arranged to be releasably engaged around a circumference of the fuel tank.
- [c21] The method of claim 16, wherein the cradle comprises an alignment pin arranged to limit movement of the fuel tank with respect to the cradle.